

AGENDA

4-SESSION LIVE VIRTUAL WORKSHOP “GRID INTEGRATION OF GRID-CONNECTED PHOTOVOLTAICS” 16 & 17 March 2022 + 23 & 24 March 2022

Session	Date and Time	Content and learning objectives
1	16 March 2022	From DC to AC – photovoltaic and inverter technology
	13:15 - 13.30	<ul style="list-style-type: none"> Logging in and short tutorial on Zoom
	13.30 – 14.00	<ul style="list-style-type: none"> Introduction of participants and course overview
	14.00 – 17.00	<ul style="list-style-type: none"> Understanding PV fundamentals with regard to grid integration <ul style="list-style-type: none"> MPP tracking Inverter technology introduction Question and answer session <p><u>Exercise:</u></p> <ul style="list-style-type: none"> Effect of temperature on U-I curve and maximum power point tracking Effect of irradiation on U-I curve and maximum power point tracking
2	17 March 2022	Voltage control and support strategies with grid connected rooftop PV
	13.15 - 13.30	<ul style="list-style-type: none"> Logging in
	13.30 – 17.00	<ul style="list-style-type: none"> Reactive power control modes (constant power factor, constant reactive power, $\cos\phi(P)$ Q(P) and Q(V)-characteristics) Steady state reactive power control capability of PV inverters Fault Ride Through (FRT) and dynamic voltage support: dynamic reactive power control capability of PV Protection settings - cases Question and answer session <p><u>Exercises:</u></p> <ul style="list-style-type: none"> Reactive power compensation example Inverter ability and grid code requirement analysis

3	23 March 2022	Short term PV power forecast for grid operation
	13.15 - 13.30	<ul style="list-style-type: none"> Logging in
	13.30 – 17.00	<ul style="list-style-type: none"> Forecast applications PV power forecast methodology Forecast errors Day ahead and intraday forecast example Question and answer session <p><u>Exercises:</u></p> <ul style="list-style-type: none"> Comparing forecast error and costs Forecast implementation strategy
4	24 March 2022	Frequency control with grid connected rooftop PV
	13.15 - 13.30	<ul style="list-style-type: none"> Logging in
	13.30 – 17.00	<ul style="list-style-type: none"> Over- and under frequency behavior of PV Balancing power needs and security of supply: <ul style="list-style-type: none"> Residual load approach and system flexibility needs with PV Probabilistic balancing power calculation methodology and probabilistic balancing power dimensioning Calculation of positive and negative balancing power needs with increasing PV generation capacity Question and answer session <p><u>Exercises:</u></p> <ul style="list-style-type: none"> Power outage distribution calculation Probabilistic balancing power needs calculation for grid connected PV
	17.00 – 18.00	<ul style="list-style-type: none"> Final question and answer session Seminar evaluation and certificates